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HEALTH CONDITIONS AND SERVICES IN CALIFORNIA FOR DOMESTIC SEASONAL AGRICULTURAL WORKERS AND THEIR FAMILIES

Part II

CAMP MANAGERS QUESTIONED

In California, there are 6,500 farm labor camps of all types. Fourteen farm labor housing centers, originally built and operated by the Farm Security Administration (1938-1948), are now operated under the jurisdiction of local housing authorities. Several centers are used by Mexican Nationals and are not available to domestic workers and their families. There are various accommodations available in these camps, ranging from a relatively few low-rent, multi-bedroom houses built in recent years to over 1,500 one-room 12' x 20', tin or wood "shelters." The latter are occupied at the present time by domestic farm workers' families. The "shelters" were built in the late 1930's and have no inside running water or plumbing.

In August 1960, letters were sent to the directors of these public housing centers requesting information on health needs and health services of the camp residents. The replies indicated that although some "shelters" have been closed in recent years, others are still in use and are felt to be a "disgrace." The camp managers indicated that they have kept them available because of the continuing need to provide these families with something other than the "roadside" or "riverbank" as a dwelling place during the peak seasons. Attention was called in the replies to wide monthly fluctuations of demand for housing in the camps, reflecting varying farm labor demands in different parts of California.

This is the second and final part of a condensation of the report and recommendations made to Governor Edmund G. Brown at his request, by Malcolm H. Merrill, M.D., State Director of Public Health, on the health conditions and services in the State for domestic seasonal agricultural workers and their families. Part I appeared in the February 1 issue.

Camp managers listed many medical needs of the occupants of their camps including available out-patient medical care, immunizations, health and nutrition, relaxation of residency requirements for hospital care, and dental care. Frequent reference was made to the advantages that could be obtained by having weekly visits during peak seasons by field nurses who could do health education, take care of preventive medical care needs, and treat early and minor medical conditions as well as provide liaison with existing medical services.

FIELD INTERVIEWS

A limited number of field interviews were also conducted in August 1960 by staff of the State Department of Public Health. Sutter, Yuba, Fresno and Imperial Counties were selected for the interviews on the basis of location and local interest in providing special services for seasonal agricultural workers.

Limitations of time and staff restricted the interviewing to two days

in each of these areas. The interviewing team was composed of three physicians, a senior medical student, and a medical social worker. In each of the counties visited, staff of the local public health department joined the team. One large farm labor camp in Sutter County, five areas of Fresno County (including a farm labor camp) and five locations in Imperial County were visited; these areas having been selected by the local health department staffs.

Interviews were conducted at every other house in large areas; in smaller settlements or where many houses were vacant because of crop demands elsewhere, every house was selected for interview. Questions used in the interviews related to health problems and health needs. Interviews were conducted in Spanish or English as the situation warranted.

The definition of "agricultural family" used in the interview data was a family in which at least one member of the family was employed in farm labor during the preceding 12 months.

SUTTER AND YUBA COUNTIES

Families Interviewed

All of the families interviewed lived in the Richland Camp located on the outskirts of Yuba City. At the time of our visit, the camp was full, with 365 families composed of 1,600 people. Two hundred and fifty of the families were indicated to be agricultural workers and lived in the camp's one-room, 12 x 20 foot, tin dwellings, without running water or toilet facilities. Community toilet facilities

were available approximately 50 yards away from the dwellings.

No medical services were offered at the camp except for a well child conference held once a month by the county health department nurse. The county hospital is two miles away with no available form of public transportation to it.

Agricultural workers' families were selected for interview by choosing all even numbered dwellings in that part of the camp made up of one-room tin shelters. Seventy-five agricultural worker families were interviewed.

CHARACTERISTICS OF FAMILIES

Forty percent of the agricultural families interviewed were of Mexican origin; 47 percent were Anglos; and only six of the families were Negro. The average family unit was composed of six persons. However, 32 families had more than six members. The level of schooling reached by the head of the household in over two-thirds of the families was eighth grade or less. Approximately one-fourth of the families customarily spoke Spanish at home. In about one-fifth of the households interviewed, one member was a non-citizen. In almost one-half of the families, children under 18 years of age were employed. Half the families reported working only three to nine months during the previous year. Fifty-nine percent of the families had lived in the State three years or longer; but 30 percent had lived in the State less than a year. The average number of moves in one year was three. Seventy-two of the 75 families had moved once, or more, during the preceding year in order to find farm work.

HEALTH AND HEALTH SERVICES

Direct observations of the health of these families supported strongly the judgment of community leaders that more health services need to be made available and that many families need help to use them better. More than two-thirds of the families reported having no family physician anywhere and almost 90 percent reported no health insurance of any kind.

They had received little preventive medical services. About two-thirds of the children under three years of age had not been immunized against diphtheria, whooping cough, lockjaw or smallpox. About two-thirds of the children under 18 years of age had not received any poliomyelitis immunization.

There were many indications of ill health. A severe epidemic of infectious diarrhea was in full swing during the interviews. Almost every family seen had diarrheal disease at the time of interview or had had symptoms during the preceding weeks. Eight infants had been hospitalized for epidemic diarrhea at the county hospital in July. If a family worked for even a few hours, they considered themselves well. If immobilized by symptoms, they then admitted illness and began to look for help from the county hospital, private physicians, druggists or their neighbors. Often they looked for this help too late to prevent serious consequences of illness.

Untreated contagious skin infections, acute febrile tonsillitis, lymphadenopathy, asthma, pregnancy without any prenatal care, iron deficiency anemia in children, important disabling physical handicaps that were receiving no medical attention, chronic disorders in adults ranging from hemophilia to pulmonary disorders, congenital heart disease, dental caries and arthritis were encountered which were not receiving suitable follow-up. These deficiencies were often due to the family's lack of knowledge of existing services; lack of transportation; and their failure to recognize need for medical assistance and follow-up for more than emergency care.

SANITATION

None of the families interviewed had inside running water or private flush toilets. All had access to community water taps and toilet facilities. About two-thirds of the families had some means of refrigerating their food. Thirty-one families, about 40 percent, had six or more persons per room.

Insufficient maintenance help in the camp resulted in dirty toilets and bath houses as well as in faulty, accident-provoking equipment and inadequate garbage pick-up.

Interviews With Community Groups

Interviews with practicing physicians, county health and welfare department personnel, administrative officers of the county hospital and other interested persons in both counties during August of this year, suggest that extension of health facilities and health services to agricultural workers and their families are needed, particularly during the peak season

of peach and apricot picking in July, August and September. The problem of increased load during these months on the county hospitals which are already operating at 90 percent of capacity with minimal staff was pointed out. In Yuba County, for example, one physician runs an 82-bed county hospital, including the emergency service, and an out-patient clinic handling 9,000 patient visits during a year. Prenatal and well-child clinics of the bi-county health department were particularly indicated as a program which should be extended to these agricultural workers. It was felt that these clinics could also be used to give these workers limited out-patient treatment through close cooperation with the county medical society.

FRESNO COUNTY

Families Interviewed

One hundred interviews with agricultural families were conducted in five areas of Fresno County: Sanger, Jericho, Parlier, East Mendota, and Firebaugh.

CHARACTERISTICS OF FAMILIES

Over half of the agricultural families interviewed were of Mexican origin, one-quarter were Negro, and the rest were Anglo. The average family unit was composed of six persons; 41 of the 100 families had more than six members. The level of schooling reached by the head of the family in over two-thirds of the group was eighth grade or less. Over one-third of the families customarily spoke Spanish at home. In less than one-fifth of the families interviewed was one or more members a non-citizen. In one-third of the families, children under 18 were reported to be employed. About two-thirds of the families reported working three to nine months during the previous year; only one third, from nine to 12 months. Seventy-nine families had lived in California three years or longer; only 12 families had lived in the State less than one year. Eighty-two families had not moved during the preceding 12 months.

HEALTH AND HEALTH SERVICES

The people in these areas appeared less vigorous than those at the Richland Camp, and the predominance of chronic diseases was striking. One-half of the families had no family physician; 87 percent had no health insurance of any kind.

They had received little preventive medical services. Fifty-nine percent of the children under three years had not received immunizations against diphtheria, whooping cough, lockjaw or smallpox. Fifty-eight percent of those under 18 had not had poliomyelitis immunization. Fifty-eight percent of the adults had not had a chest x-ray in the past year.

The need for chronic disease follow-up was repeatedly documented; for example, in children with nutritional anemia and persistent respiratory infections and in adults with incapacitating Parkinson's disease, congestive heart failure, crippling rheumatoid arthritis. Severe dental disease was almost universally observed. Mental illness was reflected in some instances of family breakdown.

SANITATION

Less than half of the agricultural families interviewed had a water tap in their homes. Seven families had to haul water, and the remainder used community taps located outside the dwellings.

About two-thirds of the families had no private flush toilets; less than one-third had community flush toilets. About one-fourth of the families interviewed had private privies, and six families used community privies.

One-fourth of the families interviewed had no means of refrigerating their food.

More than half of the families had two or three persons to a room, and 22 families had four or more persons per room.

Interviews With Community Groups

Physicians, growers, health and welfare department officials, representatives of education and of voluntary agencies were interviewed. Many of these individuals saw a need for the extension of health services to the seasonal agricultural worker, and many suggestions were made regarding possible solutions to the problem. Almost all indicated that distance of medical care facilities from the seasonal agricultural workers' homes, the lack of health education, and the cost of medical care were barriers to the utilization of present facilities by these people. Some individuals mentioned that residency requirements were a problem. Expansion of decentralized outpatient clinics was suggested as one method of attacking the problem.

IMPERIAL COUNTY

Families Interviewed

A total of 47 interviews with agricultural families were completed in various areas in Imperial County on August 29 and 30, 1960, as suggested by the health officer and his staff. These areas were: Niland, Calipatria, Holtville, Brawley, El Centro, Heber, and Calexico. As had been anticipated, many of the agricultural families had gone north to pick fruit and had not yet returned to the Valley. One-third to one-half of the houses were vacant with the neighbor's explanation that "They have gone north."

CHARACTERISTICS OF FAMILIES

Almost all of the 47 agricultural families interviewed were of Mexican origin; only five were Negro. The average family unit was composed of six persons. The level of schooling reached by the head of the family in almost all cases, was eighth grade or less. Well over half of the families customarily spoke Spanish at home. In about one-third of families interviewed, one member was a non-citizen. In seven families, there were two or more non-citizens. In only four families were the children reported as employed. Thirty families, almost 65 percent, reported they had worked from three to nine months during the preceding year. Almost 90 percent of the families had lived in the State three years or longer and had not moved during the previous 12 months. Only one family had lived in California less than a year.

HEALTH AND HEALTH SERVICES

These families, like those in the fringe areas of Fresno, lacked real vigor and reported considerable chronic disease, the very nature of which made distance to medical care, usually the county hospital, an insurmountable problem. Many had seen a physician at least once in the past year, but most medical contacts were on a one-shot crisis basis. Dental disease was prevalent. Forty-three percent indicated that they had no family physician. Over 90 percent had no health insurance of any kind.

They reported little use of preventive medical services. Forty-five percent of the children under three years of age had not received immunizations for diphtheria, whooping cough and lockjaw, and sixty-two percent had not been vaccinated for smallpox. Forty percent of those under 18 years of age had not received a single polio-

myelitis immunization. Sixty percent of the adults had not had a chest x-ray in the preceding year.

SANITATION

Twenty-five percent of the families lived in houses with no inside running water. About one-third of the families had private privies, almost one-fifth used community privies and only one-third had private flush toilets. The rest had access to community flush toilets. Eighty-seven percent of the families had some means of refrigerating their food. Thirteen families, almost one-fourth, had four or more persons per room.

Interviews With Community Groups

Information on health needs of domestic workers was obtained from interviews and discussions with growers and with medical personnel on visits in July, 1960. Among the foremost problems in providing services for Imperial County's seasonal agricultural workers and their families were understaffing in the county health department and the county hospital, distance of these facilities from their homes, lack of transportation facilities to the existing medical facilities,

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and failure on the part of the seasonal workers to obtain more than emergency medical care. Twenty to thirty percent of the 75 applications per day for in- and out-patient care at the county hospital are out-of-county and out-of-state residents during certain seasons of the year.

It was estimated that close to 90 percent of the patients at the Imperial County Hospital obtained their main income from agricultural work, while in the child health conferences of the Imperial County Public Health Department, out of 1,479 current parent registrations, 690 listed farm labor as their primary occupation.

SUMMARY AND CONCLUSIONS

"They are living testimonials to the poverty and neglect that is possible even in our wealthy and dynamic democracy that prides itself on its protection and concern for the individual. Behind the screen of statistics . . . we see families crowded into shelters that are more like coops for animals, with children undernourished and in poor health, two or three years behind in school, with little chance to develop their talents and become fully useful to themselves or their country. This is the ugliest kind of human waste. The pride of the migrant and his family is a charge on the conscience of all of us."*

Studies of the seasonal agricultural worker in California and throughout the Nation during the last three decades have shown with remarkable unanimity that these people have more medically uncorrected conditions, lower utilization of preventive medical care, and higher morbidity and mortality rates than any other socio-economic group in our population. The conditions necessary for the realization of better medical care for these people are summarized here to re-emphasize the steps needed to make good medical care really available to these people in California.

1. *Availability and Accessibility of Health and Medical Facilities:* The locations of county hospitals and public health facilities are generally distant from the areas where agricultural families live and work. There has been very little decentralization of health facilities. The barrier of financial and residence requirements renders the services of the county hospital unavailable to many of those who need it most. The time of day at which most health services are of-

fered is seldom at hours when entire families can use them, or when the family car is available without loss of work. Public transportation is usually absent in outlying rural areas. The success of the decentralized clinics of Fresno County demonstrates that these people will use health facilities if they are available and accessible.

2. *Early Diagnosis and Treatment:* These people usually obtain medical care only in emergencies. They tend to ignore less severe ailments, such as ear infections, which could have damaging sequelae. It is the impression of the study staff that, if these agricultural families seek medical care for non-emergency conditions, they seldom are able to return for adequate follow-up.

3. *Lack of Coordination of Existing Public Services:* Many of these families are known to several health and welfare agencies. There is a conspicuous absence of consistent, coordinated planning by these public and private agencies for these multi-problem families.

4. *Cost of Medical Care:* Agricultural workers rarely carry health insurance. They must meet the entire expense of each separate medical treatment, together with the cost of transportation and medicine. This is usually a financial hardship for they have a difficult time saving money for the basic necessities of life during seasonal unemployment, and medical care rates low priority in their budgets.

5. *Cultural Factors:* Lack of knowledge of the nature of health and disease due to the cultural background and limited education of many agricultural workers present a problem to those who are responsible for medical service programs. Other cultural factors also affect their use of health and medical resources: the influence of older people in the extended family group who hold strong cultural beliefs about health and disease; the barrier of language; and reluctance to ask for medical aid from public sources. While much is known about these cultural factors, much more must be learned in order to do an effective job of handling the problems they present.

Interviews with interested community groups, growers, physicians, health and welfare department offi-

cials, and employment personnel have shown a widespread and genuine interest in doing something constructive for the health of the seasonal agricultural worker. That this should be a locally determined program, extending existing health services to these people, and subsidized by state funds, was repeatedly pointed out by members of the various groups. The interviews with seasonal agricultural labor families this summer again documented many difficulties in meeting their health needs.

The essence of this report will have a familiar ring to most readers with an interest in the health problems of seasonal farm workers. Similar conclusions have been reached many times before. In the face of such agreement, it is paradoxical that to date no systematic program has evolved to meet the medical needs of domestic agricultural workers. By implementing the present recommendations for state financial support of locally administered services geared to the variety of local situations, California will lead the Nation toward its goal of equal opportunities for good health for these disadvantaged families.

[Complete references, charts, and maps are given in the full report. Copies are available on request.]

Scholarships Available

The National Foundation is offering, for the third year, approximately 500 scholarships to study nursing, occupational therapy, physical therapy, medical social work, or medicine. The scholarships are four-year awards, renewable annually. They pay \$500 a year, or a total of \$2,000. Each of the fifty states, the District of Columbia, Puerto Rico, the Virgin Islands, and the Canal Zone has a quota based on population.

Scholarships are awarded on the basis of scholastic achievement, personal qualifications, professional promise, and financial need. Decisions of the selection committee will be announced this summer.

Applications have been distributed to all secondary schools and accredited colleges of the country, and are available from the National Foundation Health Scholarships, 800 Second Avenue, New York 17, N.Y.

The deadline for filing applications is April 1, 1961.

* Introduction, "The Migrant Farm Worker in America prepared for the Subcommittee on Migratory Labor," United States Senate, 1960.

Human Rabies Death After Dog Bite in Imperial County

A 76-year-old man died in a Yuma, Arizona hospital on January 20, 1961, of rabies, 44 days following a bite by a rabid dog near the Imperial Dam at Bard in Imperial County, California. Onset of illness was 31 days after the bite, and death occurred on the 13th day after onset.

On December 7, 1960, the victim incurred a five-inch bite wound on the right wrist when the dog jumped from a bank above and attacked him. The bite wound was washed with antiseptic on the day of the attack and administration of a 14-dose course of the relatively new duck-embryo rabies vaccine was begun on December 13th.

Microscopic examination of the dog's brain revealed typical Negri bodies, and six out of eight inoculated mice were dead by the 16th post-inoculation day. Examination of the mouse brains revealed typical Negri bodies. The dog brain and the brains of the inoculated mice were also positive by the fluorescent-rabies-antibody (FRA) test.

Diagnosis of the human case was confirmed on January 24, 1961 by the finding of typical Negri bodies on microscopic examination of human brain material by the California State Department of Public Health. This is the fourth laboratory-proved human case of rabies in California during the last five years.

Chronic Disease Publication

Lester Breslow, M.D., Chief, Division of Preventive Medical Service, California State Department of Public Health, was chairman of the American Public Health Association's Program Area Committee on Chronic Disease and Rehabilitation, when *Chronic Disease and Rehabilitation, A Program Guide for State and Local Health Agencies* was developed.

The recently published guide indicates various approaches health departments may take to meet the problems of chronic disease and disability, and it suggests practical program components that can be adapted to various local conditions.

Copies are available from the American Public Health Association, 1790 Broadway, New York 19, New York, attention: Book Service; the cost is \$2.50.

U.C. Scientists Investigate Resistance to Insecticides

An investigation that could contribute to the worldwide campaign against malarial *Anopheles* mosquitoes and many other insect scourges of mankind has been launched by University of California scientists under a grant from the United States Public Health Service.

Through experiments with mosquitoes and houseflies, the Berkeley experts are seeking to develop methods of detecting and measuring tough sub-groups of numerous insect species exhibiting great resistance to such powerful insecticides as DDT and dieldrin.

The scientists believe that the resistance of these insects probably stems from the presence in their bodies of enzymes which detoxify the insecticides. Such enzymes could be transmitted according to genetic rules and soon give rise to larger numbers of resistant insects.

Health Education Workshop

The fourth annual Health Education Workshop to be held at Ventura College, Ventura, California, July 31 through August 11, 1961, has been announced. It is open to all teachers, nurses, administrators and others interested in school health.

The workshop is being held under the auspices of San Fernando Valley State College, Northridge, California, and will be sponsored by the Health Division of the Ventura County Community Council. Two units of resident credit will be granted by San Fernando Valley State College upon completion of the two-week course. Tuition will be \$24.00.

Meetings Scheduled

- Feb. 19-22 California Tuberculosis and Health Association, Annual Meeting, San Francisco.
- Feb. 25 California School Health Association, Southern Section Annual Meeting, Santa Monica.
- March 5-9 California State Nurses Association, Annual Convention, Berkeley.
- Apr. 17-19 California Health and Welfare Association, Annual Conference, Los Angeles.
- June 26-29 Western Branch, APHA, Annual Meeting, San Diego.

Behavioral Science Institute for Health Officers

A behavioral science institute for health officers will be held at the Santa Ynez Inn in Santa Monica April 9, 10, and 11, as part of the continuing education program of the Western Branch, American Public Health Association. Speakers will include Edward Wellin, Ph.D., Director, Behavioral Sciences Activities, American Public Health Association; Herbert Bauer, M.D., Yolo County Health Officer; Ralph Sachs, M.D., Los Angeles City Health Department Executive Officer; and Lyle Saunders, Associate Professor of Preventive Medicine, University of Colorado.

Much of the institute time will be devoted to small group discussions by health officers and behavioral scientists of the contributions of the behavioral sciences to public health and of their limitations.

The institute is being sponsored by the California Conference of Local Health Officers, the California State Department of Public Health, the School of Public Health at the University of California at Los Angeles, and the Southern California Public Health Association, and will be conducted by the University of California School of Public Health and the Western Branch and Western Regional Office of the American Public Health Association.

Business Administrators Seminar

The Northern California Chapter of the Association of Business Management in Public Health announces the third west coast seminar at Highlands Inn, Carmel, from April 2 to 7, 1961. The seminar is open to health department business administrators throughout the United States. Persons attending will discuss the place of the business administrator in public health programming and the major factors involved in the decision-making process from both the medical viewpoint and the viewpoint of the business administrator.

For additional information write to the Northern California Chapter, Association of Business Management in Public Health, in care of Contra Costa County Health Department, P.O. Box 871, Martinez, California.

Three New Local Projects Approved by Department

Three new projects in local health departments have been approved by the Local Projects Advisory Committee of the California State Department of Public Health.

The first is for development and evaluation of a family treatment program for the control of delinquency in Imperial County. This program follows efforts over the past three years to coordinate services to multi-problem families by the health, welfare, probation and education departments and other agencies of the county, with the help of consultants from the UCLA School of Medicine and from various State departments. The proposal calls for the establishment of a local multi-disciplinary team to evaluate the family situations and develop a plan whereby the local agencies can give better and more coordinated services with present staff.

The Los Angeles City Health Department proposes to carry out a new program for the early detection of cervical cancer among women receiving prenatal care in health department clinics throughout the city. This program will be carried out in cooperation with the cytology laboratory of the Los Angeles County Hospital and includes training of staff members in the necessary techniques.

The Los Angeles City Health Department also proposes to conduct a training program for selected public health administrators to improve their skills in handling administrative and supervisory problems. The project will be supported by State grants.

PROGRAM BRIEFS

Alcohol Information Center

The Contra Costa Council on Alcoholism, in cooperation with the Contra Costa County Tuberculosis and Health Association, has opened an information center for problem drinkers, their families, clergy, and physicians. The information center is located at 105 Astrid Drive, Pleasant Hill, and the telephone number is YE 5-0472.

Year-End Report Televised

"San Diego's Health—1960" is the third annual television report to the people on the work of the county's de-

Ira O. Church, M.D., Retires

Ira O. Church, M.D., M.P.H., Sacramento County Health Officer for the last ten years, is retiring on March 1. Dr. Church has had a long career as a health officer, having served in that capacity in health departments in Kansas, New Mexico, and Michigan, as well as in California.



He first came to California in 1928 as health officer of Contra Costa County. During his period of service there, he took a year's leave to obtain his Master of Public Health degree at Johns Hopkins University School of Public Health and Hygiene. After returning to his former position in Contra Costa and serving there until 1933, Dr. Church became health officer of Alameda County, where he remained until 1942. In 1942 he took the position of health officer of Branch County, Michigan. After three years there, he returned to California as health officer of Santa Barbara County. He held this position from 1945 to 1950, when he became health officer of Sacramento County.

After his retirement, Dr. Church will continue to make his home in Sacramento.

partment of public health. Again this year, a film print of the telecast will be made for distribution through the San Diego Health Department's film library. The print of last year's program, "San Diego's Health—1959", has had constant showings throughout San Diego County since it became available in March 1960. (*San Diego's Health*, December 1960).

Personals

Eva Barnes, supervising public health nurse for the Tulare County Health Department, was recently called to Washington, D. C., to receive a special citation from the National Council of the Churches of Christ in the U.S.A. for her pioneer work in the Agricultural Migrant Ministry in California, Arizona, and Oregon for the years 1928-36.

Six staff members of the Division of Laboratories, SDPH, contributed to the eleventh (1960) edition of *Standard Methods for Examination of Water and Water Waste*. They are **Floyd W. Hartmann, Sc.D.**, Assistant Chief, Division of Laboratories; **Arnold E. Greenberg**, Chief, Sanitation and Radiation Laboratory; **Remo Navone**, Chief, L.A. Branch Public Health Laboratory; **Robert P. Grady**, **Nathan Moskowitz**, and **Minoru Ota**, also with the L.A. Branch Public Health Laboratory.

John W. Brown, M.D., recently returned from a year in Iran, has again taken a leave of absence from the California State Department of Public Health, this time for a two-year stay in Thailand. He left in January to work with two medical schools and three university hospitals in Bangkok under the International Cooperation Administration to develop a better intern residency program. He will also be working to improve the undergraduate and postgraduate curriculum in the medical education program.

One of the most fundamental changes to affect our country in this century is the increase of 47 per cent in average life expectancy.—*Progress in Health Services, Health Information Foundation*, December 1960.

The last decade in particular has seen dynamic growth in our medical knowledge of how to prevent and treat illness. The results are nowhere more evident than in the extension of life, largely because the infective and parasitic diseases, which in epidemic form once decimated those in the younger ages, have now been so largely controlled. This class of diseases, which caused about 18 per cent of the deaths in 1900, today causes just over 1 per cent.—*Progress in Health Services, Health Information Foundation*, December 1960.

Imperial County Adopts Unique Rabies Ordinance

A newly revised county rabies control ordinance adopted by the Imperial County Board of Supervisors has some unusual features. Unique in California are provisions for (1) an annual quarantine period, restricting dogs and cats to the premises of their owners; (2) allocation of part of the county's rabies eradication fund specifically for educational purposes; and (3) a permanent Rabies Control Council to function in planning, conducting, and reviewing program activities and in effecting necessary emergency steps in the event of a threatened outbreak.

During the quarantine period, the licensing and vaccination program (including low-cost clinics), eradication of stray dogs and cats, and the annual predatory animal poison control program under direction of the county agricultural commissioner, will be intensified. The various incorporated cities which operate their own control programs are represented on the Rabies Control Council and will coordinate city control activities with those of the unincorporated areas under jurisdiction of the county ordinance.

To carry out the educational program, the Rabies Control Council is empowered to appoint a citizens' action committee. This phase of the year-round control activities will be initiated at least a month before the annual quarantine and will continue through the quarantine period to acquaint the public with provisions of the ordinance and to seek public cooperation. It was a citizens' action committee which played a major role in the 1959 Imperial County rabies outbreak in achieving public understanding of the seriousness of the outbreak and in gaining complete cooperation of the public to bring the outbreak under control.

Sections of the ordinance which set forth the features unique in California are quoted as follows:

Section 5. Rabies Eradication Fund:

(a) A fund to be known as the "Rabies Eradication Fund" is hereby created. All license fees and fines arising from this Ordinance, or violation thereof, which shall be assessed and received by any County Officer or any court shall be placed in the County Treasury in the said "Rabies Eradication Fund", and shall be used only for the purpose of carrying out the provisions of this Ordinance. In the event that the money in said "Rabies Eradication Fund" shall be in-

sufficient to pay the cost of providing certificates, receipt forms and tags, as provided for under the terms of this Ordinance, the cost thereof shall be paid out of the General Fund of said County.

(b) The sum of not less than One Thousand Dollars (\$1,000.00) may be allocated in any year from the General Fund to the "Rabies Eradication Fund" by the Board of Supervisors specifically for the purpose of financing an annual education and publicity campaign to instruct the general public concerning the legal requirements and purpose of vaccination and licensing of all dogs.

Section 7. Quarantine Period:

(a) The period January 16th to and including March 1 of each year is hereby declared an Annual Quarantine Period affecting all dogs and cats in the unincorporated area of Imperial County. The County Veterinarian and the County Health Officer shall encourage all incorporated areas to declare a quarantine in their respective areas during the same period, provided that those areas do not already have existing leash or quarantine laws in effect. The quarantine period shall be fully publicized beginning not later than December 16th of the previous year. During the Annual Quarantine Period all dogs and cats shall be confined to the premises of the owner at all times in accordance with the definition set out in Section 2, (d).

Section 19. Rabies Control Council:

A Rabies Control Council is hereby created, members of which shall consist of the County Health Officer, the County Veterinarian, the Agricultural Commissioner and 2 members from the general public, one representing the sporting dog groups and one representing the livestock industry. At least two (2) meetings yearly shall be called by the Health Officer on or before December 15th of the year preceding the Rabies Control Period, and on or before March 1st of the year of the Rabies Control Period. The purposes of the meeting shall be to plan and conduct a program outlining the procedures to be employed in the implementation of the quarantine period, and to review the current year round measures taken to prevent or control an outbreak of rabies in Imperial County. If said Council determines that the current year's program has for any reason been inadequate, it shall make a recommendation to the Board of Supervisors to amend this Ordinance in order to conduct more effectively the rabies and predatory animal control program. The Rabies Control Council shall make an annual report to the Board of Supervisors concerning the Rabies Control Period. This Council may appoint a citizens' action committee for the purpose of conducting an annual publicity and educational program. Said campaign to begin not later than December 16th of the preceding year, and to terminate on March 1st of each year, in order to acquaint the public with the provisions of this Ordinance, and to seek public cooperation. Funds for the campaign shall be provided according to the provisions of Section 5 (b), and in such other way as the Board of Supervisors shall determine. In the event of a threatened outbreak of rabies in Imperial County, the Council shall have the power to take any emergency steps subject to the approval of the Board, which may be necessary to protect the public health and safety.

Fish Studies Show Possible Link Between Liver Cancer and Diet

Studies initiated last year have shown a significant relationship between certain diets and the incidence of hepatoma (a cancer-like disease of the liver) in hatchery trout. Depending on the type of commercially prepared fish pellets used, the prevalence of hepatoma ranged between one and 50 percent. Older and larger fish have the higher percentage of hepatoma. When asked about possible harmful effects to human consumers of trout with this disease, the State Department of Public Health gave assurance that no such danger exists; however, the State Health Department assisted the State Department of Fish and Game in initiating a series of studies of the incidence of this disease because it is possible that a new experimental animal has been found for use in cancer research. Fish are grown commercially in large numbers; they are readily available and may prove to be an important and inexpensive research tool.

From these studies there appear to be certain consistent findings, not only in California but in other areas as well. One is the association of this tumor in trout fed on commercially prepared dried foods. The other consistent observation has been the complete lack of hepatoma in trout fed on fresh or frozen meat and glandular tissue.

The dry, commercially prepared diets contain a large number of ingredients, usually ranging between 40 and 60 separate components. These include a variety of cereals, distillers solubles, cottonseed meal, wheat middlings, fish meal, vitamins and minerals, and traces of other elements. These commercially prepared fish pellets have a high protein content that causes accelerated growth in the fish.

Representatives of the Bureau of Communicable Diseases of the State Department of Public Health helped prepare the experimental design for a series of experiments now being conducted by the State Department of Fish and Game at the Sacramento Field Station in an effort to determine which specific nutrient, additive, or even deficiency is responsible for the trout hepatoma.

The number of reported smallpox cases in the United States dropped from 102,000 in 1920 to just 4 in 1953. —Children in a Changing World.

Public Health Positions

Alameda County

Cerebral Palsy Therapist (Physical): Salary range, \$430-\$530. To provide services in clinics and schools for the treatment of cerebral palsied and similarly handicapped children. Requires completion of approved curriculum and one year's experience plus California registration and registration with American Registry of Physical Therapists. For further information inquire of Alameda County Civil Service Commission, 188 Twelfth Street, Oakland 7, California.

Kern County

Microbiologist: Salary range, \$478-\$527. Responsible for a variety of medical analyses in a modern, well-appointed laboratory. Requires college, one year of experience, and possession of valid California Public Health Microbiologist Certificate. Contact Kern County Personnel Department, Civic Center, Truxtun at Chester, Bakersfield.

Los Angeles County

Industrial Hygiene Engineer: Salary begins at \$715. Requirements: college graduation in chemical, civil, or mechanical engineering, and at least three years experience in industrial health engineering or related work.

Assistant Chief of Public Health Records: Salary range, \$677 to \$715. A minimum of three years recent experience as a public health statistician or public health analyst is required.

Both positions are with the Los Angeles County Health Department. For further information and application forms write to County of Los Angeles Civil Service Commission, 222 N. Grand, Los Angeles 12, California.

Napa County

Sanitarian: Salary range, \$415-\$505. Starting salary depends on experience and

Local Occupational Health Services in California

The table below summarizes the types of occupational health programs conducted by local health departments in California. The table is based on the annual plan submitted by full-time local health departments for the fiscal year ending July 1, 1960, and also includes some additional information from the Bureau of Occupational Health and other sources.

Thirty-eight full-time and two part-time health jurisdictions conduct activities or have plans for activities in the field of occupational health.

Over 90 percent of the population of the State and about 90 percent of the labor force are in these jurisdictions.

Seventeen areas covering two-thirds of the population have organized programs with staff that has received some special training in occupational health. This is one more jurisdiction than for the previous fiscal year. There has been substantial expansion since 1950, when occupational health programs existed only in Los Angeles City and Los Angeles County, and there were beginnings of programs in only a few other areas.

LOCAL HEALTH DEPARTMENTS BY TYPE OF OCCUPATIONAL HEALTH PROGRAM

California, July 1960		
Occupational Health Program	Number of local health departments	Resident population July 1, 1960
California	48 ^a	15,830,000
Separate Bureau or Service	7	8,755,169
Program without separate organizational unit but with specially trained staff	10	2,170,463
No specially trained staff but activities or plans reported in Local Health Department Plan	21	3,539,660
No activities or plans reported	10	1,146,680
Remainder of State	^b	218,028

^a Includes the 46 full-time local health departments in California and the part-time health departments of Albany and Vernon which have occupational health programs.

^b Part-time and contract counties.

SOURCE: Local Health Department Plan for Occupational Health for fiscal year July 1, 1959-June 30, 1960. State of California, Department of Finance, provisional population estimates prepared July 1, 1960.

qualifications. Generalized sanitation program. Retirement plan, medical plan, sick leave, three weeks vacation. Automobile necessary; mileage paid. Must have or be qualified for California registration. Apply to: Sterling S. Cook, M.D., Director of Public Health, Napa County Health Department, P.O. Box 749, Napa, California.

San Mateo County

Supervising Public Health Nurse: Salary range, \$505-\$632. Requires college graduation and one year post-graduate study in nursing and three years public health nursing experience. Apply to Mrs. Eva Reese, Health and Welfare Department, 225 37th Avenue, San Mateo, California.

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